

PATENT SPECIFICATION

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(54) IMPROVEMENTS IN OR RELATING TO TILTABLE SEAT SQUABS

(71) We, CHRYSELER UNITED KINGDOM LIMITED, a British Company, of Bowater House, 68 Knightsbridge, London, SW1X 7LH, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

10 This invention relates to tiltable seat squabs for use in automotive motor vehicles.

The invention provides a tilttable seat squab having hinge elements pivotally connected thereto by coaxial hinge pins and mountings for the hinge elements comprising brackets for attachment to a fixed part of a vehicle body structure, each bracket having a open ended slot to receive a hinge pin of one of the hinge elements and fastening devices for securing the hinge elements to the respective brackets with the hinge pins supported in the slots therein. Each of the hinge pins may have a projecting part for engagement in a respective slot, the end of the projecting part remote from the hinge element being formed with a head to engage on the opposite side of the bracket to the hinge element.

20 The fastening devices for securing the hinge element to the bracket may comprise screws to pass through holes in the hinge elements and engageable in screw threaded bores in the bracket.

25 The brackets may comprise plates which, in use, lie in vertical parallel planes, the slot in each plate extending downwardly into the plate from the upper end thereof to receive a respective hinge pin and the fastening device connecting the hinge element to the plate at a location spaced below the slot.

30 The plates may be "Top hat" section channels.

35 In any of the arrangements referred to above, locking means may be provided

between the or each hinge element and the seat squab for locking the squab with respect to the hinge element in one or more selected positions.

40 The following is a description of a specific embodiment of the invention, reference being made to the accompanying drawings, in which:

45 Figure 1 is a perspective view of a vehicle rear seat squab incorporating one embodiment of the invention;

50 Figure 2 is a perspective view of part of the embodiment of Figure 1;

55 Figures 3 and 4 are further perspective views showing part of the embodiment of Figure 1 on enlarged scale; and

60 Figure 5 shows a modified construction.

65 A vehicle rear seat squab 10 is pivotable about two latchable hinge mechanisms each located on one side edge of the squab at the lower end thereof to releasably secure the squab in one of two positions in the vehicle adjacent the seat bore.

70 Each hinge mechanism comprises an elongate upper bracket 11 secured along its rear edge by welding to a side upright squab frame member 12 at the lower end thereof. The lower end of the bracket 11 is pivotably connected to the upper portion of a flat elongate lower hinge plate 75 13 by holes through which engages one end of a pin 14 which may be riveted over or welded to bracket 11 to retain the bracket and plate 13 on the pin which has a larger diameter shank portion 15 terminating in a head 16 which extends transversely outwardly of the plate and normal to its outer surface for a purpose to be described later.

80 The upper end and forward edge of the plate adjacent the pin 14 is a constant radius from the axis of the pin 14 and two circumferentially spaced recesses 17 and 18 are formed on the arcuate edge of the plate such that recess 17 is located on or adjacent 85

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the axis of the plate and corresponds to the generally upright position of the squab as shown whilst recess 18 is circumferentially spaced on the forward edge of the plate 13 approximately 90° to recess 17 to correspond with a generally horizontal position of the rear squab in the vehicle.

A flat rectangular latch plate 19 mounted for radial linear movement relative to pin 14 is located on the outer face of the bracket 11 and has one end suitably shaped to engage in one or the other of the recesses 17 and 18 in the edge of plate 13. The latch plate is guided for limited radial movement relative to the pin by the rectangular spacer plate 20 slidingly engaged in a rectangular slot 21 formed in the bracket 11, the spacer being interposed between the latch plate and the base of a U-shaped element 22 on the opposite face of the bracket 11 and secured to both the latch plate 19 and the element 22 by spot-welding all three together. Alternatively the latch plate and the element base may be provided with suitable holes through which they are secured to the spacer plate by plug-welding. The spacer plate and hence the latch plate and U-shaped element are retained for sliding movement along the longer edges of the slot 21.

Axially aligned holes in the limbs 23 and 24 of the element 22 are engaged by the lower end of a pull rod 25 which projects downwardly from limb 24 and has a hole 26 adjacent the lower end of the rod into which one end of a coiled tension spring 27 the other end of which engages in a notch 28 in the edge of bracket 11. The pull rod 25 is secured to the element 22 so that the element is spring urged towards the pin 14 and hence the end of the latch plate 19 is urged into recess 17 or 18.

Each pull rod 25 within the squab trim extends upwardly of the element towards the top of the squab and terminates in a suitably shaped handle 29 accessible through a rectangular recess 30 formed in the rear face of the squab adjacent the upper corners thereof.

Secured to the bracket 11 forwardly of the latch plate is a pin 31 having a shank 32 extending outwardly of the bracket 11 and terminating in a head 33 which overlays the edge of plate 13 to assist in maintaining the bracket 11 and plate 13 closely together. The shank 32 abuts the non-arcuate forward edge 34 of the plate 13 to act as a limiting stop for the squab when it is pivoted forwardly to a horizontal position in the vehicle.

A rectangular shallow "Top hat" section bracket 35 has an open ended slot 36 in one end edge centrally of the offset web portion and a nut 37 in register with a hole 65 in the web is retained within the web

adjacent the end of the bracket remote from the slot 36. A pair of the brackets 35 are welded respectively to the opposing sides of the vehicle interior structure with the brackets extending vertically and slotted 70 ends of the brackets uppermost.

To fit the rear squab into the vehicle, the shanks 15 are fully engaged into their respective slots 36 such that the holes 38 in the lower hinge plate 13 are in register 75 with the holes in the webs of brackets 35 and hence the nuts 37 and the heads 16 are inside the web of bracket 35 and the heads 16 engage the opposite side of the brackets to the lower hinge plates 13 to prevent transverse movement of the squab in the vehicle and the plates 13 are then secured in this position by screws 39 engaging through holes 38 into the nuts 37. Conversely, the squab can easily be removed from the vehicle by a reversal of 80 these operations.

To pivot the seat squab, each of the handles 29 is lifted simultaneously to release the latch plates from their corresponding recesses and the squab can then be pivoted about pins 14 until the ends of the latch plates can engage the non-recessed part of the arcuately formed edge 90 of plate 13. The handles can then be released and the seat squab further tilted until the spring-urged latch plates engage into the second of their respective recesses in which position the squab is secured 95 against further movement.

Various modifications may be made to the embodiment described hereinbefore without departing from the scope of the invention. For example the two separate pull rods may be linked together by a suitable cross rod and operated by a single release handle accessible through a suitable centrally located recess formed in the rear surface of the squab adjacent the top edge thereof.

Referring now to Figure 5 of the drawings there is shown a further release mechanism for releasing the latch plates 19 from the recess in the hinge plates 13. In place of the pull rods attached to the element 22, cables 40 are connected to the elements. The cables extend upwardly within the structure of the seat squab and, midway up the squab, pass through arcuate guide tubes 41 mounted in brackets 42 secured to the squab frame members 43 and thence extend towards the centre of the squab. At the centre of the squab a lever 44 is pivotally mounted at 45 on a cross member 46 forming part of the squab structure. The cables 40 are connected to the lever 44 on either side of the pivot 45. The upper end of the lever carries a manually operable slide member 44a which is slidable in an arcuate slot in a slideway 47 130

secured to an upper cross member 48 of the squab structure. Movement of the slide member 44a around the slideway in the direction of the arrow 49 indicated draws the cables 40 in the direction of the arrows releasing the latch plates 19 from the recesses to permit the seat squab to be released. When the member is released, the aforesaid tension springs 27 return the latch plates. It will be understood that when the squab is fully upholstered, the slideway 47 with the slide member 44a will be exposed at the back of the seat squab.

WHAT WE CLAIM IS:—

15. 1. A tiltable seat squab having hinge elements pivotally connected thereto by coaxial hinge pins and mountings for the hinge elements comprising brackets for attachment to a fixed part of the vehicle body structure, each bracket having an open ended slot to receive a hinge pin of one of the hinge elements and fastening devices for securing the hinge elements to the respective brackets with the hinge pins supported in the slots therein.
20. 2. A tiltable seat squab as claimed in claim 1 wherein the hinge pins have projecting parts for engagement in respective slots, the ends of the projecting parts remote from the respective hinge elements being formed with heads to engage on the opposite side of the brackets to the hinge elements.
25. 3. A tiltable seat squab as claimed in claim 1 or claim 2 wherein the fastening devices for securing the hinge elements to the brackets comprise screws to pass through elements and engageable in screw threaded bores in the brackets.
30. 4. A tiltable seat squab as claimed in any one of the preceding claims wherein the brackets comprise plates which, in use, lie in vertical parallel planes, the slot in each plate extending downwardly into the plate from the upper end thereof to receive a respective hinge pin and the fastening device which connects the hinge element to the plate being located below the slot.
35. 5. A tiltable seat squab as claimed in claim 4 wherein the plates are "top hat" section channels.
40. 6. A tiltable seat squab as claimed in any of the preceding claims wherein lockings means are provided between the or each hinge element and the seat squab for locking the squab with respect to the hinge element in one or more selected positions.
45. 7. A tiltable seat squab as claimed in

claim 6 wherein the locking means comprise one or more notches in a peripheral part of the hinge element and a latch slidably mounted on the squab for movement into and out of engagement with the one of the notches to lock the hinge element against rotation with respect to the squab.

8. A tiltable seat squab as claimed in claim 7 wherein a release mechanism is mounted on the seat squab for withdrawing the latch from a notch in the hinge element and spring means are provided for biasing the latch into engagement with a notch.

9. A tiltable seat squab as claimed in claim 8 wherein the release mechanism includes a rod mounted for sliding movement in the seat squab, one end of the rod being connected to the latch and the other end having a handle for manual movement of the rod to release the latch.

10. A tiltable seat squab as claimed in claim 7 or claim 8 and in the case where latches are provided for locking both hinged elements in required positions of rotation wherein the latches are connected by cable mechanisms to a common movable release member mounted on the seat squab for releasing both latches.

11. A tiltable seat squab as claimed in claim 10 wherein the common release member is pivotally mounted on the seat squab, the cable mechanisms being connected to the release member on either side of its pivot point and one end of the release member carrying a manually operable slide member moveable in an arcuate slideway to pivot the release members and thereby operate the cable mechanisms to release the latches.

12. A tiltable seat squab as claimed in any of the preceding claims in combination with a seat base, for mounting on the vehicle structure.

13. A tiltable seat squab substantially as described with reference to and as illustrated in Figures 1 to 4 of the accompanying drawings.

14. A tiltable seat squab substantially as described with reference to and as illustrated in Figures 1 to 4 as modified by Figure 5 of the accompanying drawings.

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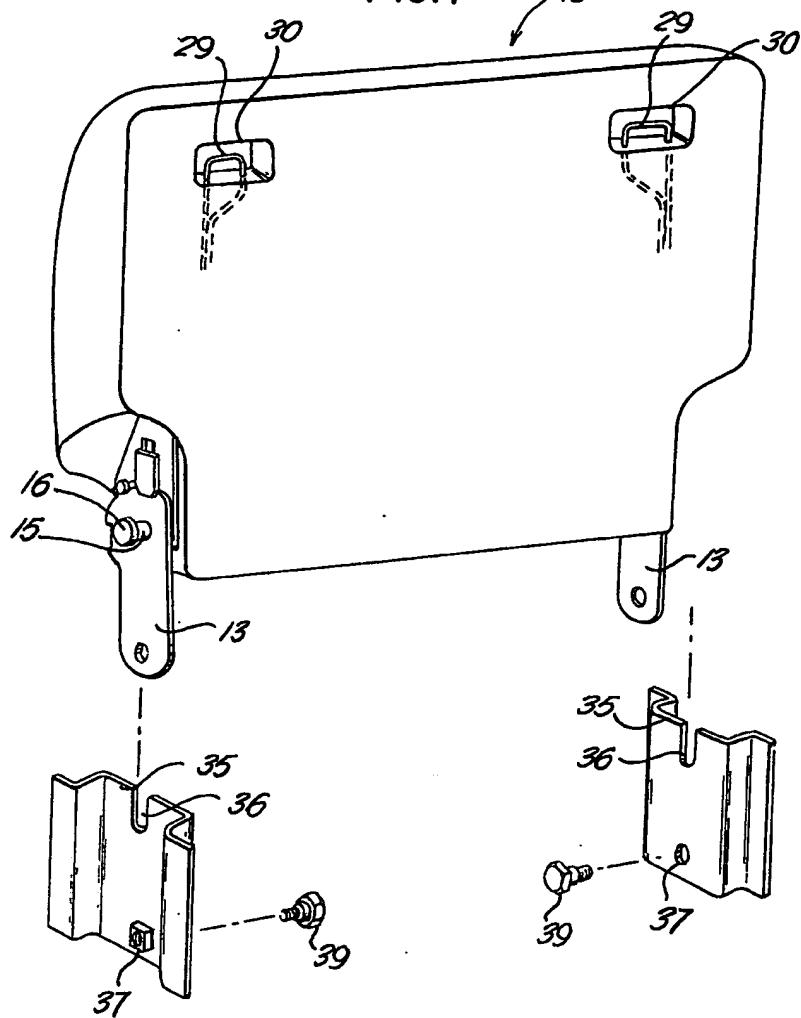
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3 SHEETS

COMPLETE SPECIFICATION

*This drawing is a reproduction of
the Original on a reduced scale.
SHEET 1*

FIG.1



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COMPLETE SPECIFICATION

3 SHEETS

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SHEET 2

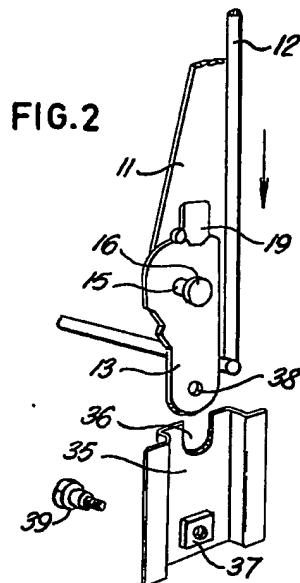
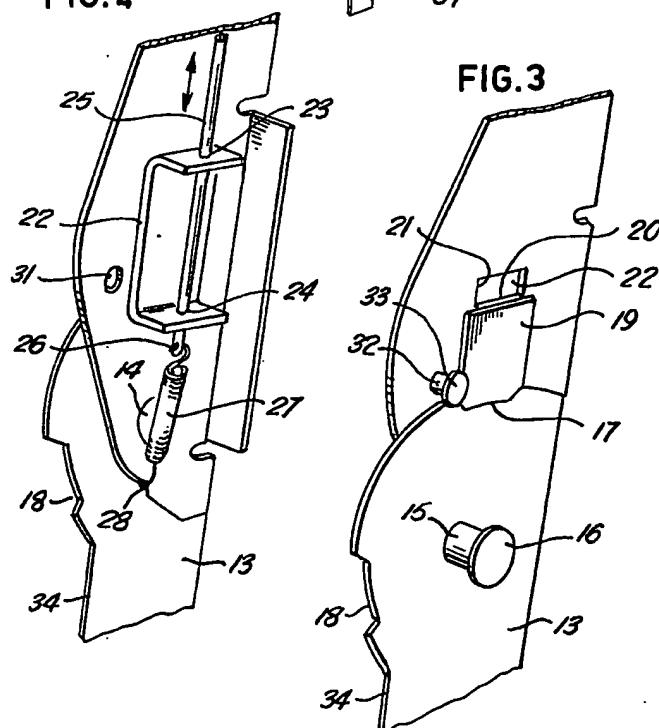


FIG.4



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3 SHEETS

COMPLETE SPECIFICATION

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the Original on a reduced scale.

SHEET 3

FIG. 5

